

Ch. 4.1 p. 216

MATRIX - NUMBERS ARRANGED
IN ORDER (IN ROWS
AND COLUMNS)

MATRICES (PL)

COLUMNS

$$\begin{bmatrix} 4 & 7 & 0 \\ -31 & 15 & 2 \end{bmatrix} \leftarrow \text{ROW}$$

2 ROWS AND
3 COLUMNS

DIMENSION OF A MATRIX
TELLS US NUMBER OF ROWS
AND COLUMNS

2×3
 $\downarrow \quad \uparrow$
ROWS COLUMNS

EACH NUMBER IN A MATRIX -
ENTRY OR ELEMENT

TWO MATRICES ARE EQUAL IF
THE CORRESPONDING ELEMENTS
ARE EQUIVALENT

$$\begin{bmatrix} 4x+5 & 9 & 15 \\ 7 & -2y+3 & -1 \end{bmatrix} = \begin{bmatrix} 21 & 9 & 15 \\ 7 & y-12 & -1 \end{bmatrix}$$

$$4x+5=21$$

$$-5 \quad -5$$

$$4x=16 \quad x=4$$

$$-2y+3=y-12$$

$$+2y$$

$$+2y$$

$$3=3y-12$$

$$15=3y$$

$$y=5$$

p. 221 #6

$$x + 8 = 14 - x$$

$$x$$

$$2y - 1 = -13 - y$$

$$y =$$

7a 3×2

MATRIX A = R

MATRIX B = S

HOME

p. 221

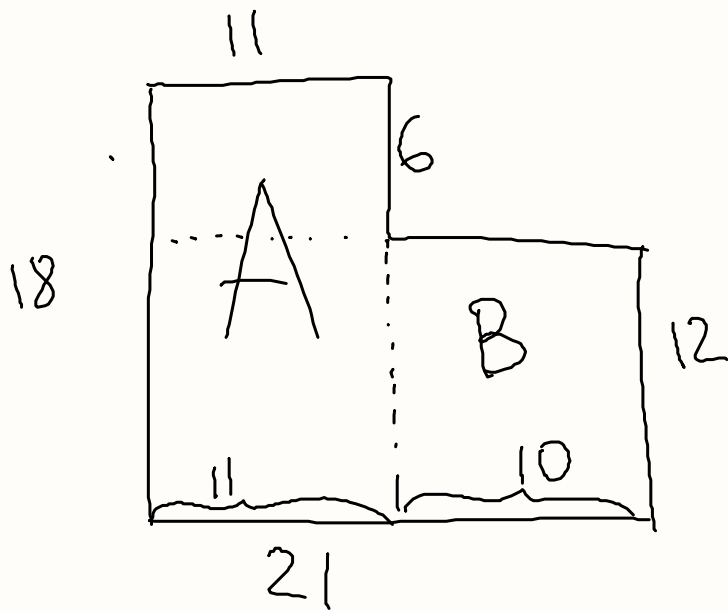
12-16 even

p. 222

24, 28, 30, 34

p. 170

WORK ON THE
PROBLEM 1 AND
ANOTHER EXAMPLE.



$$A : 18 \times 11 = 198$$

$$B : 10 \times 12 = 120$$

$$418$$

Ch.4.1

MATRIX - NUMBERS ARRANGED
IN ORDER (ROWS AND COLUMNS)

A hand-drawn diagram of a 2x3 matrix. The matrix is enclosed in large square brackets. Inside, there are two rows and three columns. Each cell contains a number. The top row contains 0, -17, and 5. The bottom row contains 11, 101, and -13. Two horizontal blue ellipses highlight the two rows. Two vertical blue ellipses highlight the three columns.

0	-17	5
11	101	-13

ROWS (2)

COLUMNS (3)
DIMENSION (2x3)

EACH MATRIX HAS ENTRY (ELEMENT)

TWO MATRICES ARE EQUAL
WHEN CORRESPONDING
ELEMENTS ARE EQUIVALENT

$$\begin{bmatrix} 4x+5 & 9 & 15 \\ 7 & -2y+3 & -1 \end{bmatrix} = \begin{bmatrix} 21 & 9 & 15 \\ 7 & y-12 & -1 \end{bmatrix}$$

$4 \cdot 4 + 5 = 21$

$4x+5=21$
 $-5 \quad -5$
 $4x=16 \quad x=4$

$-2y+3 = y-12$
 $+2y \quad +2y$
 $3 = 3y-12$
 $y=5$

$-2 \cdot 5 + 3 = -7$
 $5 - 12 = -7$

#6

$$x+8=14-x$$

$$x=$$

$$2y-1=-13-y$$

$$y=$$

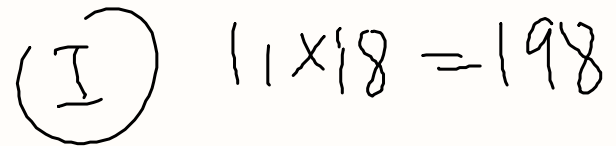
(7a)

call matrix R $AS[A]$

call matrix S $AS[B]$

HOMÉ p.221 #12-16 even.
p.222 #24, 28, 30,
34

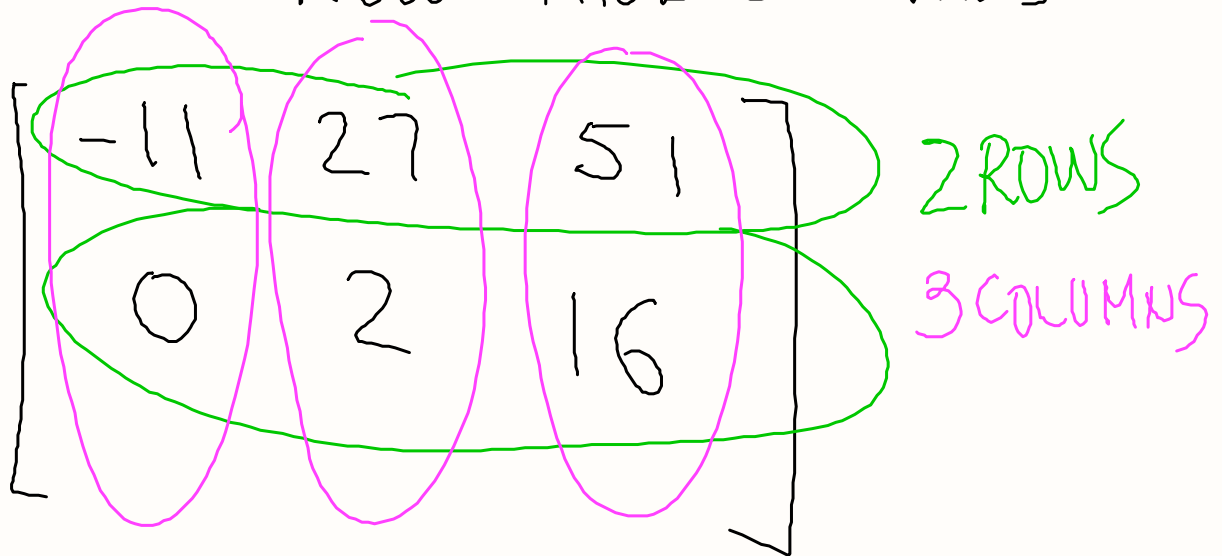
GEDM #1 p.120
#2 p.121



$$\text{II } 10 \times 12 = 120$$

CH. 4.1

MATRIX - ARRANGEMENT
OF NUMBERS BY
ROWS AND COLUMNS



-11	27	51
0	2	16

2 ROWS

3 COLUMNS

EACH NUMBER IN A MATRIX
IS AN ENTRY (ELEMENT)

DIMENSION OF A MATRIX
dim TELLS NUMBER
OF ROWS AND COLUMNS

$\text{dim}(2 \times 3)$
Rows Columns

TWO MATRICES ARE EQUAL
WHEN CORRESPONDING ENTRIES
ARE EQUIVALENT

$$\begin{bmatrix} 4x+5 & 9 & 15 \\ 7 & -2y+3 & -1 \end{bmatrix} = \begin{bmatrix} 21 & 9 & 15 \\ 7 & y-12 & -1 \end{bmatrix}$$

$4x+5 = 21$
 $4 \cdot 4 + 5 = 21$
 $21 - 5 = 16$
 $16 \div 4 = 4$
 $x = 4$

$-2y+3 = y-12$
 $-2y+3 = y-12$
 $+2y \quad +2y$
 $3 = 3y - 12$
 $+12 \quad +12$
 $15 = 3y$
 $15 \div 3 = 5$
 $y = 5$

p. 221 #6

$$\begin{array}{r} X+8=14 \\ +X \quad +X \\ \hline 2X+8=14 \\ -8 \quad -8 \\ \hline 2X=6 \\ \underline{X=3} \end{array}$$

7a, b

dim (3x2)

call R matrix [A]

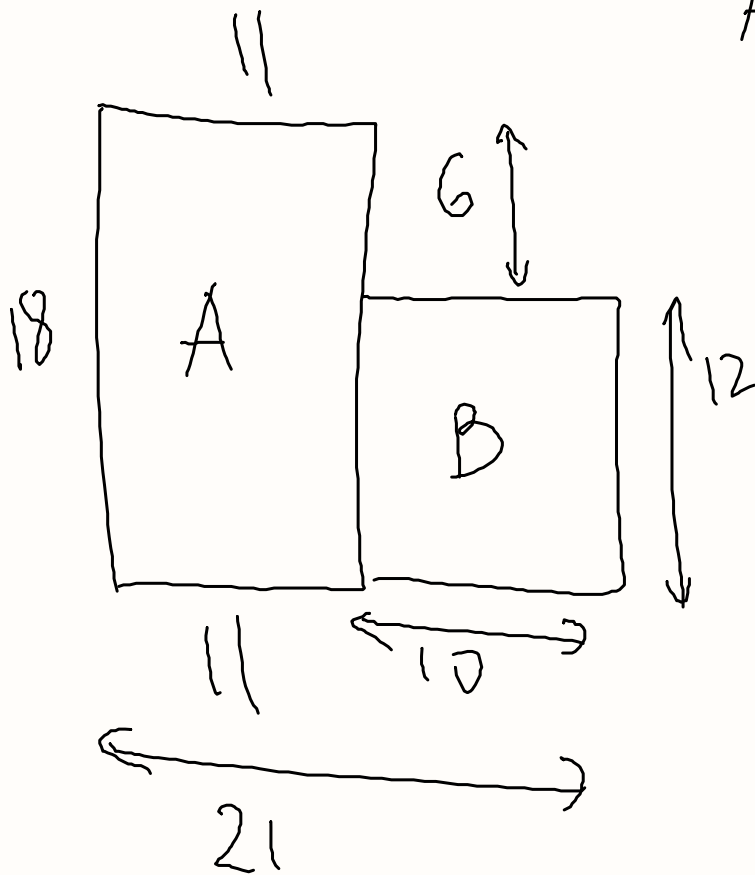
S matrix [B]

$$2y-1=-13-y$$

$$\begin{array}{r} 2y-1=-13-y \\ +y \quad +y \\ \hline 3y-1=-12 \end{array}$$

$$\begin{array}{r} 3y=-12 \\ y=-4 \end{array}$$

#1 p.120



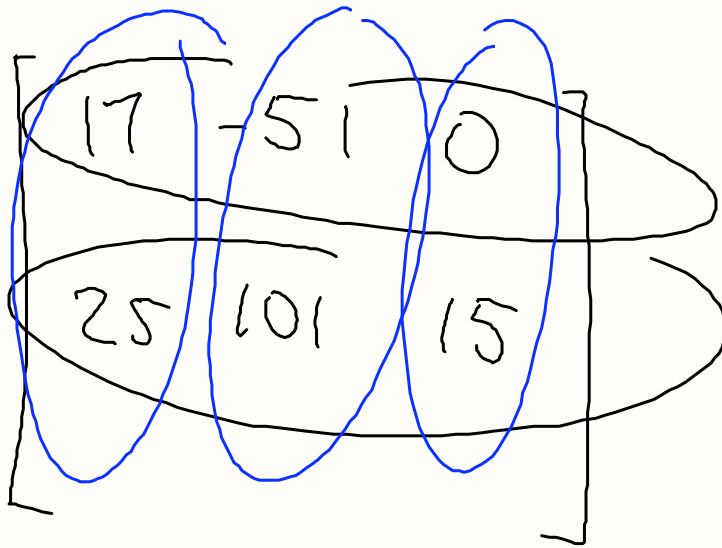
$$A: 18 \times 11 = 198$$

$$B: 12 \times 10 = 120$$

$$\begin{array}{r} 198 \\ + 120 \\ \hline 318 \\ \text{ft}^2 \end{array}$$

CH. 4.1 MATRIX (MATRICES PL.)

MATRIX - ARRANGEMENT OF
NUMBERS BY ROWS AND
COLUMNS (BRACKETS)



A 2x3 matrix is shown with numbers arranged in two rows and three columns. The matrix is enclosed in large square brackets. Each of the three columns is circled with a blue oval to illustrate the column structure.

17	-51	0
25	101	15

2 ROWS

3 COLUMNS

NUMBERS IN MATRIX
ARE CALLED ENTRIES (ELEMENTS)
EACH ENTRY HAS ITS ADDRESS
(1ST ROW, 2ND COLUMN)

EACH MATRIX HAS DIMENSION
(dim = 5×3)

↑ ↑
ROW COLUMNS

$$\begin{bmatrix} -7 & 0 & 11 \\ 57 & 21 & 3 \end{bmatrix}$$

dim 2×3

MATRICES ARE EQUAL WHEN
THEIR DIMENSIONS ARE THE SAME
AND WHEN CORRESPONDING ENTRIES
ARE EQUIVALENT

$$\begin{bmatrix} 4x+5 & 9 & 15 \\ 7 & -2y+3 & -1 \end{bmatrix} = \begin{bmatrix} 21 & 9 & 15 \\ 7 & y-12 & -1 \end{bmatrix}$$

$-2 \cdot 5 + 3 = -7$ $5 - 12 = -7$

$$4x+5=21; 4 \cdot 4+5=21$$

$-5 \quad -5$

$$\frac{4x}{4} = \frac{16}{4}$$

$$x=4$$

$$-2y+3=y-12$$

$+2y \quad +2y$

$$3=3y-12$$

$+12 \quad +12$

$$15=3y; y=5$$

PRACTICE p. 221

#6

$$\begin{array}{r} x+8=14-x \\ +x \qquad +x \end{array}$$

$$\begin{array}{r} 2x+8=14 \\ -8 \quad -8 \end{array}; \quad 2x=6$$

$$x=3$$

$$\begin{array}{r} 2y-1=-13-y \\ +y \qquad +y \end{array}$$

$$\begin{array}{r} 3y-1=-13 \\ +y \end{array}; \quad 3y=-12; \quad y=-4$$

#7 a, b

dim (3x2)

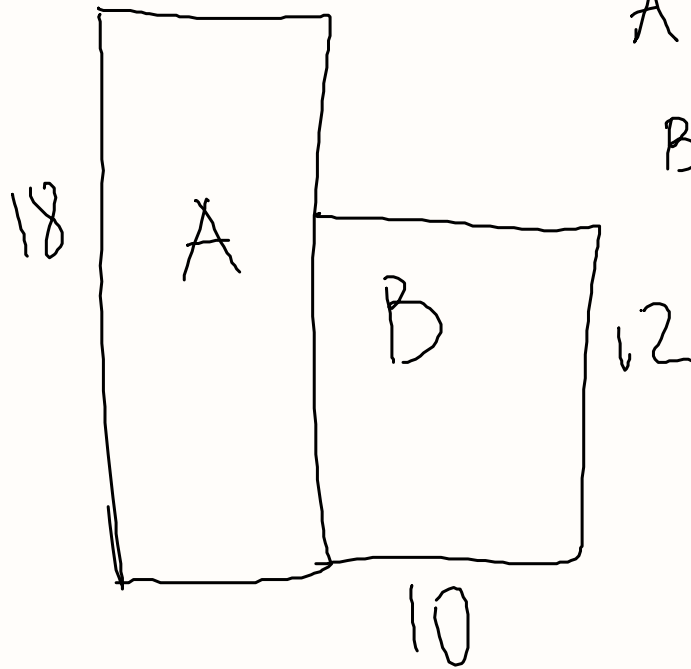
CALL R AS [A]

CALL S AS [B]

HOME	p.221	#12-16 even
	p.222	24, 28, 30, 34

p.120 #1, #2

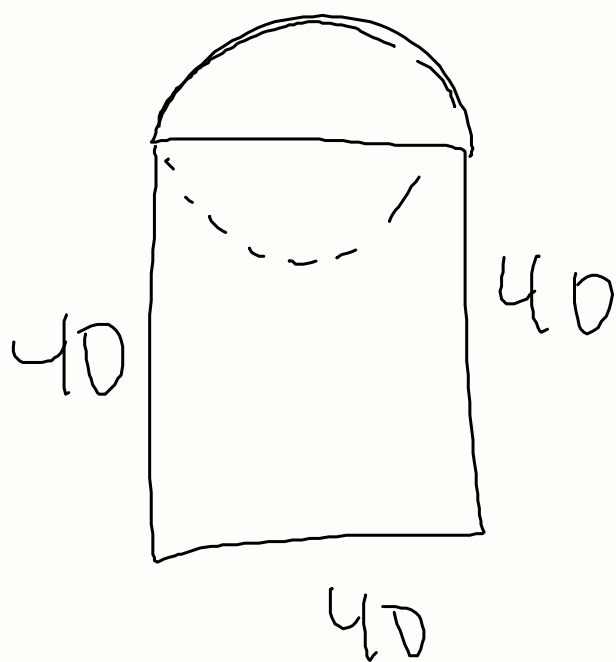
GEDM PSSA 11 P. 170-171 #1-2



$$A: 11 \times 18 = 198$$

$$B: 12 \times 10 = 120$$

$$318 \text{ ft}^2$$



$$40 \cdot 3 = 120$$

$$C = \pi d = \pi \cdot 40$$

$$\frac{C}{2} = 20\pi$$

$$C = 120 + 20\pi$$